



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/015,013

12/11/2001

Carroll Philip Gossett

PGOSS-004.US.P

2062

7590

07/05/2005

WAGNER, MURABITO & HAO LLP

Third Floor

Two North Market Street

San Jose, CA 95113

EXAMINER

NGUYEN, DUNG X

ART UNIT

PAPER NUMBER

2638

DATE MAILED: 07/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/015,013

Applicant(s)

GOSSETT, CARROLL PHILIP

Examiner

Dung X Nguyen

Art Unit

2631

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 December 2004.
- 2a) ☐ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 2, 4 - 7, 10, 11, 13 - 21, 23 - 28, and 30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1, 2, 4 - 7, 10, 20, 21, 23 - 25, 27, 28, and 30 is/are allowed.
- 6) ☒ Claim(s) 11, 13 - 19, and 26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 December 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Response to Arguments

1. Applicant's arguments filed on December 11, 2004 have been fully considered but are moot in view of the new ground(s) of rejection. Claims 3, 8, 9, 12, 22, and 29 have been canceled.

Drawing Objection

2. **Figures 2 – 4 are objected** and should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 11, 13 – 18, and 26 are rejected** under 35 U.S.C. 103(a) as being unpatentable over Lee et al. (US patent # 5,687,191), in view of Keiler et al. in "Efficient Linear Prediction for Digital Effects", Proceedings of the COST G-6 Conference on Digital Audio Effects (DAFX-00), Verona, Italy, December 7 – 9, 2000 (herein after Keiler et al.).

Regarding claim 11, Lee et al. discloses that a linear predictive coding filter for filtering out periodic signal (column 3, lines 14 – 23) in a spread spectrum system (column 5, line 32).

Lee et al. differ from the instant claimed invention that it does not show the steps of a linear predictive coding gradient adaptive lattice that filter out periodic or quasi periodic signals

Art Unit: 2631

corresponding to a predictive coefficients and the linear predictive filter output error information which is then used for signal processing.

However, Keiler et al. discloses the steps of a linear predictive coding gradient adaptive lattice that filter out periodic or quasi periodic signals corresponding to a predictive coefficients and the linear predictive coding filter output error information which is then used for signal processing (pages 1 – 3).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine Lee et al.'s teaching and Keiler et al.'s teaching as providing the requirements of the instant claimed invention for updating the spectrum model which is of great benefit for both coding and audio effects.

Regarding claim 13, as followed by the limitations analyzed in claim 11, Lee et al. and Keiler et al. differ from the instant claimed invention that they do not expressly show wherein the spread spectrum system comprising a direct sequence spread spectrum system.

However, the spectrum system being a direct sequence spread spectrum system is well known in the art.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to implement the combination of Lee et al.'s teaching and Keiler et al.'s teaching as providing the requirements of the instant claimed invention for updating the spectrum model which is of great benefit for both coding and audio effects.

Regarding claim 14, as followed by the limitations analyzed in claim 11, Lee et al. and Keiler et al. differ from the instant claimed invention that they do not expressly show wherein the spread spectrum system comprising a frequency hopping spread spectrum system.

However, the spectrum system being a frequency hopping spread spectrum system is well known in the art.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to implement the combination of Lee et al.'s teaching and Keiler et al.'s teaching as providing the requirements of the instant claimed invention for updating the spectrum model which is of great benefit for both coding and audio effects.

Regarding claim 15, as followed by the limitations analyzed in claim 11, Keiler et al. further discloses that wherein linear predictive terms are discarded (page 2).

Regarding claim 16, as followed by the limitations analyzed in claim 11, Lee et al. and Keiler et al. differ from the instant claimed invention that they do not expressly show wherein the filter is used to filter out the periodic or quasi-periodic signals in compliance with IEEE 802.11(b).

However, Keiler et al. discloses that the filter is used to filter out the periodic signal (page 2) and IEEE 802.11(b) is well known in the art as a standard device of the spread spectrum system (see "Newton's Telecom Dictionary", ISBN # 1-57820-069-5, pages # 96 – 97).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to use the combination of Lee et al.'s teaching and Keiler et al.'s teaching as providing the requirements of the instant claimed invention for updating the spectrum model which is of great benefit for both coding and audio effects.

Regarding claim 17, as followed by the limitations analyzed in claim 11, Lee et al. and Keiler et al. differ from the instant claimed invention that they do not expressly show wherein the filter is used to filter out the periodic or quasi-periodic signals in compliance with Bluetooth.

However, Keiler et al. discloses that the filter is used to filter out the periodic signal (page 2) and Bluetooth is well known in the art as a standard device of the spread spectrum system (see "Newton's Telecom Dictionary", ISBN # 1-57820-069-5, pages # 96 - 97).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to use the combination of Lee et al.'s teaching and Keiler et al.'s teaching as providing the requirements of the instant claimed invention for updating the spectrum model which is of great benefit for both coding and audio effects.

Regarding claim 18, as followed by the limitations analyzed in claim 11, Lee et al. and Keiler et al. differ from the instant claimed invention that they do not expressly show wherein the filter is used to filter out the periodic or quasi-periodic signals in a standard modulated CDMA system.

However, Keiler et al. discloses that the filter is used to filter out the periodic signal (page 2) and modulated CDMA is well known as the spread spectrum system (see "Newton's Telecom Dictionary", ISBN # 1-57820-069-5, page # 132).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to use the combination of Lee et al.'s teaching and Keiler et al.'s teaching as providing the requirements of the instant claimed invention for (abstract of Keiler et al.).

Regarding claim 26, Lee et al. discloses (figure 4) a spread spectrum receiver, comprising:

- An inherent antenna for receiving a spread spectrum signal (400) (column 5, line 32);
- A digital linear predictive filter coupled to the antenna, wherein the digital filter is used to remove periodic signals within a specified band containing the spread spectrum signal (column 3, lines 13 – 22).

Lee et al. differs from the instant claimed invention that it does not disclose the digital predictive coding filter having a lattice structure.

However, Keiler et al. discloses (figure 2) the digital linear predictive filter having a lattice filter (page 2, first column, section # 2).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine Lee et al.'s teaching and Keiler et al.'s teaching as providing the requirements of the instant claimed invention for updating the spectrum model which is of great benefit for both coding and audio effects (abstract of Keiler et al.).

5. **Claim 19 is rejected** under 35 U.S.C. 103(a) as being unpatentable over Lee et al. (US patent # 5,687,191), Keiler et al. in "Efficient Linear Prediction for Digital Effects", Proceedings of the COST G-6 Conference on Digital Audio Effects (DAFX-00), Verona, Italy, December 7 – 9, 2000 (herein after Keiler et al.), and further in view of Miyake et al. (US patent # 6,678,341 B1).

Regarding claim 19, as followed by the limitations analyzed in claim 11, Lee et al. and Keiler et al. differ from the instant claimed invention that they do not expressly show wherein the filter is used in a wireless peer-to-peer system.

However, Miyake et al. discloses (figure 3) that the filter (28) is used in a wireless peer-to-peer system (column 6, lines 25 – 41) and the spread spectrum system is well known as a high security (see "Newton's Telecom Dictionary", ISBN # 1-57820-069-5, page # 646).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to use the combination Lee et al.'s teaching, Keiler et al.'s teaching, and Miyake et al.'s teaching as providing the requirements of the instant claimed invention for no special infrastructure being therefore required for synchronizing (abstract of Miyake et al.).

Allowable Subject Matter

6. **Claims 1, 2, 4 – 7, 10, 20, 21, and 23 – 25, 27, 28, and 30 are allowed.** The following is a statement of reasons for the indication of allowable subject matter:

Regarding to the claimed invention, the prior art of record fails to show or render obvious of a spread spectrum system using linear predictive coding (LPC) having lattice structure to remove periodic or quasi-periodic signals of predictive coefficient. The LPC filter takes a

digitized spread spectrum signal and generates a set of predictive coefficients and a set of error coefficients. The set of the predictive coefficients are discarded. The remaining error coefficients represent what is left over and thereby contains the useful transmitted data found within the spread spectrum signal.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US Patent documents:

Newson et al. (US patent # 6,370,183 B1) discloses a predictive Rake receiver filter for CDMA mobile radio systems.

Mermelstein et al. (US patent # 5,995,923) discloses a method and its corresponding apparatus for improving the voice quality of tandemed vocoders.

Lee et al. (US patent # 5,822,360) discloses a method and its corresponding apparatus for transporting auxiliary data in audio signals.

Barbarsesco (US patent # 5,729,465) discloses a method and its corresponding apparatus to determine the frequency spectrum of a signal.

Harrison, Jr. (US patent # 4,578,676) discloses a delay lattice filter for radar doppler processing.

Other publications:

Newton's Telecom Dictionary, ISBN # 1-57820-069-5, pages # 18, 96- 97, 132, and 646.

Art Unit: 2631

Contact Information

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dung X. Nguyen whose telephone number is (571) 272-3010. The examiner can normally be reached on Monday through Friday from 8:30 AM to 17:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Vanderpuye Kenneth N. can be reached on (571) 272-3078. The fax phone numbers for this group is (571) 273-3021.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-2600.

DXN

June 27, 2005


**KENNETH VANDERPUYE
PRIMARY EXAMINER**